Mobile Technologies in Libraries

Introduction

When we look at the take-up of mobile technologies in libraries, especially compared with the use of the Internet, it is a little puzzling how little it is taken advantage of. The start of the World Wide Web (with browsers such as Mosaic in 1993) from the existing base of the largely text-based Internet was echoed by the introduction of text messaging (SMS) in 1993, on the early mobile phone networks. Yet while libraries were falling over themselves by 1995 to create web pages, only now do we seem to be cottoning onto the use of mobile technologies such as text messaging. This is even though for years most of our users have owned mobile phones, increasing numbers of which are now smartphones capable of accessing the Internet. Perhaps we'd better start, at last, taking advantage of these near ubiquitous devices?

So, what can we do with these mobile devices most, or all, of our users own? The first and most accessible is text messaging. We should also think about how to take advantage of the web capabilities of the increasingly used smartphones. Last of all, we should consider some of the more cutting edge capabilities of high end smartphones such as the GPS (Global Positioning System) chips and compasses embedded in many of them.

SMS / Text messaging

Text messaging is accessible these days to practically anyone, for relatively low costs (often included as part of monthly contracts), so it is an easy way to get into providing a mobile friendly service for a library.

Perhaps the easiest service for a typical library of any sector to introduce is a 'text a librarian' service. This is simply allowing members of your library to text a question, alongside all the other ways your reference service may be accessible. It can be as easy as putting a cheap pay-as-you-go mobile phone in the drawer of your main enquiry desk. It can, of course, be much more sophisticated than this, with online text portals, or even fully-fledged SMS reference services available to buy into (such as http://www.textalibrarian.com/), but as a first step, providing this service can be very simple, very easy, and very cheap.

[INSERT FIGURE 1]

Getting slightly more sophisticated are services that send out reminders (such as items overdue) to members of the library. They may also allow renewals or automated enquiries of a user's account. These may well require some programming skills alongside subscription to a web-based SMS portal. Increasingly, however, Library Management System (LMS) suppliers seem to be introducing text messaging functionality, which will make it considerably easier to introduce such services.

Lastly, you could bring a bit more innovation into using text messaging by supplementing inductions or teaching with text messages (e.g. Walsh, 2010), creating treasure hunts in the library using SMS, or whatever else your imagination can fit into 160 characters at a time!

The mobile web

Imagine, for a moment, how easy and fast access to the Internet has changed your home and working life. Now imagine how different again things would be if everyone was always connected,

wherever they were, with their phone keeping them constantly online. This is the direction we are already moving in with more than 40% of people in the UK having access to the Internet via their mobile phone and forecasts that that 'all handsets will become smart within the next five years' (Mintel, 2010).

As libraries, therefore, we need to make sure the online content we really want people to have access to is available in mobile friendly formats, not just on 'standard' web pages. However, we can't just reflect these 'standard' web pages, perhaps reduced in quantity or adapted to smaller screens to make the content more easily usable on the mobile web. The *mobile* web is different, it travels with our users, so instead we must think about what else we can do with the platform to reflect its true mobility (a great, home-produced example of mobile pages produced at low cost by a library service is https://m.ryerson.ca/ at Ryerson University, Wilson & McCarthy 2010).

We should think about embedding mobile friendly links in physical environments, perhaps using QR codes (e.g. see the work at University of Bath - http://blogs.bath.ac.uk/qrcode/) or links shortened to make them easier to input using small or virtual keyboards. This sort of embedding into the real world helps to provide information where our users want it. Remember, with the mobile web you are no longer limited by wires and heavy, fixed computers.

[INSERT FIGURE 2]

Location aware phones

Smartphones increasingly come equipped with a GPS chip (so they know where they are) and compass (so they know what direction they are facing in), opening up a new realm of applications we can take advantage of.

At a basic level we can easily take part in the location-based social networks and games that are available for a range of mobile platforms. These include Foursquare (http://foursquare.com/) and Gowalla (http://gowalla.com/) which both allow mobile users of these (free) applications to 'check in' to locations they physically visit, and were launched March 2009. They both give virtual rewards for checking into locations (points, badges and 'mayorships' for Foursquare, pins and 'items' to pick up in Gowalla), with real life perks starting to appear such as discounts for being mayor of a shop in Foursquare. These ideas are leaking over into other social networks such as Twitter (http://www.twitter.com) and Facebook (http://www.facebook.com) which are increasingly supporting the ability to show your location on updates to their networks.

[INSERT FIGURE 3]

It is free and easy to make sure our libraries appear as locations on these networks and can be done from a fixed PC or mobile device, allowing users to check into our libraries and view any tips or news that we may want to drop into the network for visitors to see.

Slightly more complicated than this are the Augmented Reality (AR) applications such as (http://www.layar.com/) which superimpose a level of virtual information over a view of the 'real' or physical world shown through a smartphone's camera. There are early library specific examples of custom Augmented Reality applications (such as http://www.youtube.com/watch?v=52wOclbqiBE), but we could easily create our own virtual layers of information using these emerging commercial applications to provide information about our libraries. We could set up an augmented reality layer from scratch to create a great deal of information about our libraries (particularly useful if there are a lot of libraries in a service, for instance public libraries) and hope people will use that layer. Alternatively, and much more easily

accessible to most of us, we could take advantage of existing layers that show updates from location aware social networks (such as Foursquare and Gowalla, and increasingly Twitter and Facebook). So if we sent updates to Twitter that reported our location as a library, those tweets would appear in any augmented reality application that chose to pick them up.

Summary

There are different levels at which we can enter the world of mobile friendly library services, from basic text messaging services, through the mobile web that is increasing rapidly in importance and availability, to the more speculative (and fragmented) world of location aware services. Whatever level we are at, it is important to remember that this is a rapidly developing area. It is only likely to be more important each month and each year to be represented on our users' mobile phones, but there are lots of ways we can painlessly and cheaply make that presence felt.

References

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